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Via E-Mail

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Mr. Joe Lemay
Remedial Project Manager
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USEPA - New England
Five Post Office Square, Suite 100
Boston, MA 02109-3912

Re: Well Integrity Testing, Vapor Intrusion Assessment, Wells G&H Site, Woburn, Massachusetts

Dear Joe Lemay:

This letter summarizes the results of well integrity testing done on 29 monitoring wells related to work specified in the *Vapor Intrusion Assessment Work Plan* (GeoTrans, 2010a) and the *Indoor Air Quality and Vapor Intrusion Assessment Scope of Work, Revision 2* (The Johnson Company, 2010). These two work plans will be collectively referred to as the VI Assessment in this letter. The well integrity testing was undertaken during May and June 2010 in order to determine the hydraulic recovery and condition of wells to be used for groundwater sampling under the VI Assessment, but not included in the Grace and UniFirst Northeast Quadrant remedy long-term monitoring program. The tests were done according to the standard operating procedure included in the *Quality Assurance Project Plan for Vapor Intrusion Assessment* (GeoTrans, 2010b) and included a visual inspection of the well, depth measurement to confirm well depth, and a slug test with water level measurements. The results of the well integrity tests are summarized below.

Slug tests were performed by recording the initial water level measurement, then removing a known volume of water from the well. The water levels were recorded for 48 hours or until 50 percent of the induced water level change had recovered, whichever came first. The slug tests determined that the following wells can be sampled: G01S, K55S, K60S, S21, S22, S63S, S70S, S71S, UC10S, UC18, UC19S, UC24S, UC25, UC26S, UC29S, UC30, UC31S, UC33, UC4, UC5, UC6S, and UC8. These wells will be sampled as part of the VI Assessment.

Slug tests were not completed at wells UC32, UC34, UC35, and UC36 because the wells were dry; the area has been dewatered by pumping from recovery well UC22. These wells will not be sampled during the initial VI Assessment sampling round. If any of these wells are found to contain water prior to the second VI Assessment sampling round, integrity testing will be performed and their usability for sampling during the second round will be assessed.

Water levels from wells UC16, UC17, UC18, and UC20 did not recover within 48 hours of testing. These wells were redeveloped on June 4 by subjecting the well to 15 minutes of surge blocking, followed by the removal of one well volume. As the following table indicates, the redevelopment was unsuccessful

in UC16, UC17 and UC20, as the water levels did not recover 50 % within 48 hours. Based on these results, UC18 will be sampled as part of the VI Assessment while UC16, UC17 and UC20 will not be included in the VI Assessment sampling because they are not in connection with the surrounding groundwater.

	Date	UC16	UC17	UC18	UC20
Initial depth to water (ft)	6/4/2010	11.10	10.80	14.60	10.70
Measured Depth to Bottom	May 2010	27.79	30.35	31.54	27
Post-development depth to water (ft)	6/7/2010	20.27	25.42	22.40	19.77
	6/8/2010	20.20	25.13	21.85	19.75
Thickness of Water Column Before Development	6/4/10	16.69	19.55	16.94	16.3
Thickness of Water Column After 4 Days Recovery	6/8/10	7.59	5.22	9.69	7.25
% Recovery		45%	27%	57%	44%

Additionally, general maintenance activities were completed on some wells. Road boxes were replaced on several wells (K55S, K60S, S22, UC29S, and UC4) that had non-functioning or broken road boxes. Two wells were found to have obstructions that were subsequently removed, S81M (sampled as part of the UniFirst Northeast Quadrant remedy long-term monitoring) and S21. Bolts and well-caps were replaced on wells where this was feasible. Wells UC5 and S22 were found to have excessive sediment accumulation at the bottom of the well; attempts to remove this sediment were unsuccessful. Despite the sediment accumulation, the water levels in these wells recovered normally and they are deemed acceptable for sampling.

If you have any additional questions regarding the well integrity testing, please feel free to contact me.

Sincerely,

Anne B. Sheehan
Project Manager

CC: J. Coyne
D. Sullivan
T. Cosgrave
C. Smith
J. Guswa

References

GeoTrans, 2010a, *Vapor Intrusion Assessment Work Plan*, March 25, 2010.

GeoTrans, 2010b, *Quality Assurance Project Plan for Vapor Intrusion Assessment*, March 25, 2010.

The Johnson Company, 2010, *Indoor Air Quality and Vapor Intrusion Assessment Scope of Work, Revision 2*, March 2010.